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12/05/01 10:13 AM

To: don_hankins@fws.gov
cc: rbeers@beerslaw.com, HAYWARD@ebparks.org, LTONG@ebparks.org
Subject: Russel City Energy Plant

Hi Don,

Consider this an "official" request for information regarding exposure limits of sensitive species to noise, pollutants, emissions and bioaccumulants which can occur as a result of factories, power plants, etc.

We have had a consultant, Dr. Phyllis Fox, analyze the CalPine document for it's ability to recognize and mitigate these impacts. Briefly, she has identified acrolein as one of the most toxic substances in turbine exhaust. Acrolein emissions are higher during start up and shut down operations as a result of reduced combustion efficiency. There are at least 832 hours of start up mode scheduled for the plant.
For one opinion on acrolein, here is a website
http://www.atsdr.cdc.gov/tfacts124.html

Additionally, Dr. Fox has identified chlorination, as a result of the water utilized by the cooling towers, as a process which forms a class of toxic compounds known as THMs (trihalomethanes, including chloroform, bromodichloromethane and others.

Nitrogen, ammonia, and phosphorus residues emitted through the cooling towers can stimulate the growth of plants in the marshes, most notably Spartina alterniflors, the invasive cordgrass, which has severely affected the clapper rail habitat in Cogswell and other nearby marshes, including the Don Edwards NWR complex.

As I mentioned earlier, the "standard" location for noise impacts is recorded at 5 feet above ground. This is based on average height for humans. I think the noise and vibration anticipated from both construction and operation of the plant have been inadequately addressed as it pertains to ground-dwelling species like SMHM and rails.

Anyway, I'd appreciate any information or references you can share. My fax is 510-635-3478 or just return info via this email response. Looking forward to hearing from you.
Thanks

Todd Marse - EPA
Russell city
↳ lead agency for air and water

415 972-3976
fax 415 947-3579
marse.todd@epa.gov
↳ email also question re: pressure burns.

ToxFAQs™ for

Acrolein

CAS# 107-02-8

July 1999

This fact sheet answers the most frequently asked health questions about acrolein. For more information, you may call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to acrolein occurs mostly from breathing it in the air. Cigarette smoke and automobile exhaust contain acrolein. Acrolein causes burning of the nose and throat and can damage the lungs. This chemical has been found in at least 7 of the 1,177 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is acrolein?
(Pronounced ak'roh-line)

Acrolein is a clear or yellow liquid with a disagreeable odor. It dissolves in water very easily and quickly changes to a vapor when heated. It also burns easily Small amounts of acrolein can be formed and can enter the air when trees, tobacco, other plants, gasoline, and oil are burned Acrolein is used as a pesticide to control algae, weeds, bacteria, and mollusks It is also used to make other chemicals.

What happens to acrolein when it enters the environment?

- Acrolein may be found in soil, water, or air.
- It breaks down fairly rapidly in the air (about half will disappear within 1 day) by reacting with other chemicals and sunlight.
- Acrolein evaporates rapidly from soil and water.
- Once dissolved in water, acrolein can be broken down to other chemicals by reactions with water or bacteria.
- Acrolein does not build up in the food chain

How might I be exposed to acetone?

- Breathing contaminated air near hazardous waste sites that contain acrolein.
- Smoking tobacco or breathing air containing tobacco smoke or automobile exhaust
- Working in, or living near, industries where it is manufactured or used to make other chemicals.
- Drinking water containing small amounts of acrolein
- Eating foods, such as fried foods and roasted coffee, that may contain small amounts of acrolein

How can acrolein affect my health?

There is very little information about how exposure to acrolein affects people's health. The information we have indicates that breathing large amounts damages the lungs and could cause death. Breathing lower amounts may cause eye watering and burning of the nose and throat and a decreased breathing rate

Animal studies show that breathing acrolein causes irritation to the nasal cavity, lowered breathing rate, and damage to the lining of the lungs

We do not know if acrolein causes reproductive effects or birth defects in people or animals.

How likely is acrolein to cause cancer?

There are no definitive studies on the carcinogenic effects of acrolein in people or animals. The International Agency for Research on Cancer (IARC) has determined that acrolein is not classifiable as to human carcinogenicity

Is there a medical test to show whether I've been exposed to acetone?

Methods have been developed to detect acrolein or breakdown products of acrolein in biological or environmental samples, however, there are no specific medical tests available in a doctor's office to determine if you have been exposed to acrolein.

Has the federal government made recommendations to protect human health?

The EPA recommends that levels in lakes and streams should be limited to 0.32 parts of acrolein per million parts of water (0.32 ppm) to prevent possible health effects from drinking water or eating fish contaminated with acrolein. Any release to the environment of more than 1 pound of acrolein must be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.1 ppm over an 8-hour workday, 40-hour workweek

The National Institute of Occupational Safety and Health (NIOSH) recommends that average workplace air should not exceed 0.1 ppm acrolein averaged over a 10-hour period or a 40-hour workweek.

The federal recommendations have been updated as of July 1999

Glossary

Carcinogenicity: Ability to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

National Priorities List A list of the nation's worst hazardous waste sites.

Pesticide: A substance that kills pests

ppm: Parts per million

Source of Information

Agency for Toxic Substances and Disease Registry (ATSDR). 1990. Toxicological profile for acrolein. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Animal testing is sometimes necessary to find out how toxic substances might harm people and how to treat people who have been exposed. Laws today protect the welfare of research animals and scientists must follow strict guidelines.

Where can I get more information?

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

For more information, contact:

Agency for Toxic Substances and Disease Registry
Division of Toxicology
1600 Clifton Road NE, Mailstop E-29
Atlanta, GA 30333
Phone: 1-888-422-8737
FAX: (404)498-0057

External safety and chemistry information (please see our disclaimer):

Acrolein
C_3H_4O

Stereo Image
MDL Molfile

NFPA Label Key

Vermont SIRI MSDS Archive

ATSDR Information Center / ATSDRIC@cdc.gov / 1-888-422-8737

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